

Hiroshi HARA\*: New or noteworthy flowering plants  
from Eastern Himalaya (18)

原 寛\*: 東部ヒマラヤ植物新知見 (18)

108) **Arenaria depauperata** (Edgew.) Hara, comb. nov.

*Stellaria depauperata* Edgew. ex Edgew. et Hook. f. in Fl. Brit. Ind. 1: 234 (1874).

*Arenaria tenella* (non Kitaibel 1814 nec Nuttall 1838) Duthie ex F. N. Williams in Journ. Linn. Soc. 33: 356 (1898).

*Arenaria bhutanica* Majumdar et Babu in Journ. Arn. Arb. 50: 626, f. 1 (1969).

Garhwal (Duthie, no. 3866, K).

Kumaon: Ralam Valley (Duthie, no. 2763—type of *A. tenella*, BM, K); (Duthie, no. 2764, K).

Nepal: Ghurchi Lekh, between Lumsa & Murma (Polunin, Sykes & Williams, no. 5153, BM, TI); Tukucha, Kali Gandaki, 12500 ft (Stainton, Sykes & Williams, no. 1907, BM, TI); Nr. Seng Khola, 13500 ft (S., S. & W., no. 3817, BM, TI); Mogarcheko Danda, 3400 m (Kanai, no. 672991, TI).

Darjeeling: Phalut, 3600 m (Hara & Ohba, no. 723717, TI).

Sikkim, 16000 ft (Hook. f., *Stellaria* no. 21—type of *S. depauperata*, K).

Bhutan. Ju La, Mangde Chu, 14000 ft (Ludlow, Sherriff & Hicks, no. 16900, BM, TI); Chelai La, 12500 ft (L., S. & H., no. 19604, BM, TI); Rudo La (west side), 12400 ft (L., S. & H., no. 20977, BM, TI).

In this species the size of petals is very variable. The petals are often small and oblanceolate, but our specimens from Phalut as well as the type of *Stellaria depauperata* have no petals, while some specimens from Bhutan have larger petals exceeding the sepal.

109) **Arenaria Ludlowii** Hara, sp. nov.

Perennis. Caudex lignosus apice multicaulis. Caules caespitosi, steriles breves sub anthesin 2-4 cm longi, floriferi 1-4 cm alti, superiore leviter

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minute pilosi. Folia parva oblongo-lanceolata 3-5 mm longa 1-2 mm lata, apice acuta pungentia, basi cuneata, margine ciliolata, uninervia. Flores terminales interdum axillares solitarii 5-meri. Pedicelli graciles filiformes 5-30 mm longi minute pilosi. Sepala oblongo-lanceolata acuta, exteriora minute pungentia, 3-4 mm longa, herbacea reflexa, dorso leviter minute pilosa margine ciliolata, obscure uninervia. Petala intense rosea 3-4 mm longa 1.5-2 mm lata cordato-ovata, basi subtruncata stipitata, stipite 1 mm longo. Glandulae nectariferae 5, reniformes conspicuae purpureae. Stamina 10, 2-2.5 mm longa, antherae minutissimae. Ovarium ovoideum ca. 1 mm altum. Styli 3, 2-2.5 mm longi purpurei. Capsula ignota.

Bhutan: Marlung, Tsampa, 14000 ft (Ludlow, Sherriff & Hicks, no. 19354, Jul. 6, 1949, fl. rich reddish pink—type in BM & TI).

This species can be referred to Subgen. *Solitaria* McNeil of the Sino-Himalayan region, but is very peculiar in having small flowers with a long filiform pedicel, reflexed sepals, and deep rose ovate petals which are distinctly stipitate. The specimen cited above seems to be functionally female.

110) *Pseudostellaria sylvatica* (Maxim.) Pax in Engl., Pfl.-fam. ed. 2, 16c: 318. (1934), ut *silvatica*—Ohwi in Jap. Journ. Bot. 9: 100 (1937)—Mizushima in Bull. Bot. Surv. Ind. 7: 70 (1965).

*Krascheninikowia sylvatica* Maxim., Prim. Fl. Amur. 57 (1859)—Muravjeva in Fl. URSS. 6: 424, t. 22, f. 1 (1936).

*Stellaria sylvatica* (Maxim.) Regel, Pl. Radd. 1: 421, t. 9, f. 12-16 (1862).  
var. *retusa* Ohwi, l. c. (1937).

Bhutan: Me La, Cho La Valley, 12000 ft (Ludlow, Sherriff & Hicks, Jul. 2, 1949, no. 20453, BM, TI).

S. E. Tibet: Kamchang, Tsangpo Valley, Kongbo, 10000 ft (Ludlow, Sherriff & Elliot, no. 12420, BM, TI); Sobhe La, near Tongkyuk Dzong, 10000 ft (L., S. & E., no. 13759, BM, TI); Deyang La, 10500 ft (L., S. & E., no. 15212, BM, TI); Valley running into Teesta from West 1/2 miles above Tangu, 13500-14000 ft (Younghusband, Jul. 13, 1903, s. n., BM).

Distr. sp. E. Himalaya (Bhutan), S. E. Tibet, W. & N. China, N. Korea, Amur, Ussuri, and N. Japan.

This is a new record of this species from E. Himalaya. The specimens cited above have been confused with *Stellaria graminea* L., but belong to

*Pseudostellaria sylvatica* and are referable to var. *retusa* Ohwi.

111) ***Pseudostellaria heterantha*** (Maxim.) Pax in Engl., Pfl.-fam. ed. 2, 16c: 318 (1934)—Ohwi in Jap. Journ. Bot. 9: 101 (1937)—Mizushima in Bull. Bot. Surv. Ind. 7: 68 (1965).

*Krascheninikovia heterantha* Maxim. in Bull. Acad. Sci. St.-Pét. 18: 376 (1873).

*Stellaria Davidi* Hemsl. var. *himalaica* Franch. in Bull. Soc. Bot. France 33: 434 (1886), quoad specim. Delav. no. 1035 (typus).

*Krascheninikovia himalaica* (Franch.) Korsh. in Bull. Acad. Sci. St.-Pét. ser. 5, 9: 40 (1898), excl. specim.

*Pseudostellaria himalaica* (Franch.) Pax, l. c. (1934).

Distr. Japan, S. Korea?, and China.

var. ***himalaica*** Ohwi in Jap. Journ. Bot. 9: 102 (1937).

*Stellaria bulbosa* Wulfen sensu Edgew. et Hook. f. in Fl. Brit. Ind. 1: 231 (1874), p. p.

*Stellaria Davidi* Hemsl. var. *himalaica* Franch., l. c. (1886), p. p., excl. specim.

*Pseudostellaria cashimiriana* Schäftlein in Phytion 7: 195 (1957)—Mizushima in Journ. Jap. Bot. 38: 151 (1963); in Fl. E. Himal. 81 (1966).

*Pseudostellaria heterantha* Pax sensu Schäftl., l. c. 193 (1957), p. p.—Photo-Album Pl. E. Himal. t. 187 (1968)—Ohba in Fl. E. Himal. 3: 32 (1975).

Nepal: Ankho Khola, Ganesh Himal, 9000 ft (Stainton, no. 3649, BM, TI).

Darjeeling: Phalut, 3000-3500 m (Hara et al. no. 666, TI); Phalut—Sandakphu, 3500 m (Hara et al. no. 672, TI).

Bhutan: Gasa—Chamsa, 2800-3700 m (Kanai et al. no. 12810, TI); Chabecha—Lingshi, 3800-4100 m (Kanai et al. no. 1770, TI); Tzatogang—Dotanang, 2800 m (Kanai et al. no. 1769, TI); Below Barshong, Thimbu Chu, 11000 ft (Ludlow, Sherriff & Hicks no. 16360, BM, TI); Donga La (E. side), 9000 ft (L., S. & H. no. 20533, BM, TI).

S. E. Tibet: Tamnyen, Tsangpo Valley, 10000 ft (Ludlow, Sherriff & Elliot, no. 13523, BM, TI).

Distr. Afghanistan, Himalaya (Kashmir to Bhutan), S. E. Tibet, and W. China?

var. ***nepalensis*** (Majumdar) Hara, stat. nov.

*Stellaria bulbosa* Wulfen sensu Edgew. et Hook. f., l. c. (1874), p. p.

*Pseudostellaria heterophylla* Pax f. *nepalensis* Majumdar in Journ. Bombay Nat. Hist. Soc. 64: 589, f. (1967).

Nepal: Near Tarakot, Bheri River, 11000 ft (Polunin, Sykes & Williams no. 2456, BM, TI); Bhurchula Lekh, near Jumla (P., S. & W. no. 4705, BM, TI); Above Dhunche—Gosainkund, 2500-3000 m (Hara et al. no. 69997, TI); North of Barse, 12250 ft (Stainton, Sykes & Williams no. 3850, BM, TI).

Bhutan: Chamsa—Yabu Thang, 3400 m (Kanai et al. no. 12330, TI); Barshong—Nala, 3400 m (Kanai et al. no. 6215, TI); Tzatogang—Dotanang, 2800-2900 m (Kanai et al. no. 16363, TI); Thimphu—Dochu La, 2700-3250 m (Kanai et al. no. 6208, TI); Laya, Upper Mo Chu, 11500 ft (Ludlow, Sherriff & Hicks no. 16430, BM, TI); Loona, Pho Chu, 12500 ft (L., S. & H. no. 16628, BM, TI); Leje, Upper Pho Chu (L., S. & H. no. 16663, BM, TI); Dengchung, Khoma Chu, 8000 ft (L., S. & H. no. 18778, BM, TI); Shimitang, Bumthang Chu (L., S. & H. no. 18935, BM, TI).

S. E. Tibet: Lotu, Shoga Chu, 12500 ft (L., S. & Elliot, no. 13901, BM, TI).

Distr. Himalaya (Nepal to Bhutan), SE. Tibet, and W. China?

The Himalayan plants resemble the Japanese ones so closely that they were sometimes identified as typical *P. heterantha*. While some Himalayan plants were referred to *P. cashimiriana*, because they have filiform rhizome bearing a short turnip-shaped tuber at each node. But this character is not always stable in the Himalayan region. On the other hand the Japanese plants have always 1 or rarely 2 fascicled often elongate tubers, and usually have cleistogamous flowers at the lower nodes of stem. The Himalayan plants tend to have broader petals than the Japanese. It seems proper to treat the Himalayan plants as a geographical variety of *P. heterantha*.

In var. *nepalensis* the shape and size of leaves are variable, but in its typical form the upper leaves are obovate and less pointed at the apex. Some intermediate forms between the two varieties are also found.

112) *Actaea spicata* L., Sp. Pl. ed. 1, 504 (1753), excl. var.  $\beta$ .

var. *acuminata* (Wall. ex Royle) Hara, comb. nov.

*Actaea acuminata* Wall. [Cat. no. 4726 (1831), nom. nud.] ex Royle, Ill. Bot. Himal. 57 (1834)—Hara in Fl. E. Himal. 2: 27 (1971).

*A. spicata* L. sensu Fl. Brit. Ind. 1: 29 (1872)—Mukerjee in Bull. Bot.

Surv. Ind. 3: 99 (1962).

*A. spicata* L. *α. nigra* Willd. 2. *f. acuminata* (Wall.) Huth in Engl., Bot. Jahrb. 16: 308 (1892), p. p.

Distr. Afghanistan, Himalaya (Kashmir to Bhutan), SE. Tibet.

The Himalayan plants have elongate and narrower leaflets which are long-attenuate to the apex, and more sharply incise-serrate, as compared with typical *A. spicata*. *Actaea asiatica* Hara of Japan and China clearly differs from the Himalayan plants by thickened dark red fruiting pedicels which are horizontally spreading or slightly reflexed, dense infructescences, and smaller subglobose berries.

113) ***Astilbe rivularis***

Hamilt. ex D. Don

var. ***angustifoliolata***

Hara, var. nov. (Fig. 1)

Caulis 30-40 cm altus.

Folia radicalia bi-ternata, caulina ternata vel bi-ternata; foliola oblongo-lanceolata 5-11 cm longa, 11-30 mm lata, apice caudato-acuminata, basi late cuneata-rotundata, supra lucidula glabra sed utrinque ad nervos pilis basi crassis parce adspersa. Inflorescentia paniculata 15-20 cm longa ca. 6 cm lata. Flores 'albi' apetalii. Calyces glabri. Stamina 8-10 exserta 3-3.5 mm longa. Capsulae ca. 4 mm longae, apice divaricatae.

Burma—Tibet Frontier: Valley of the Nam

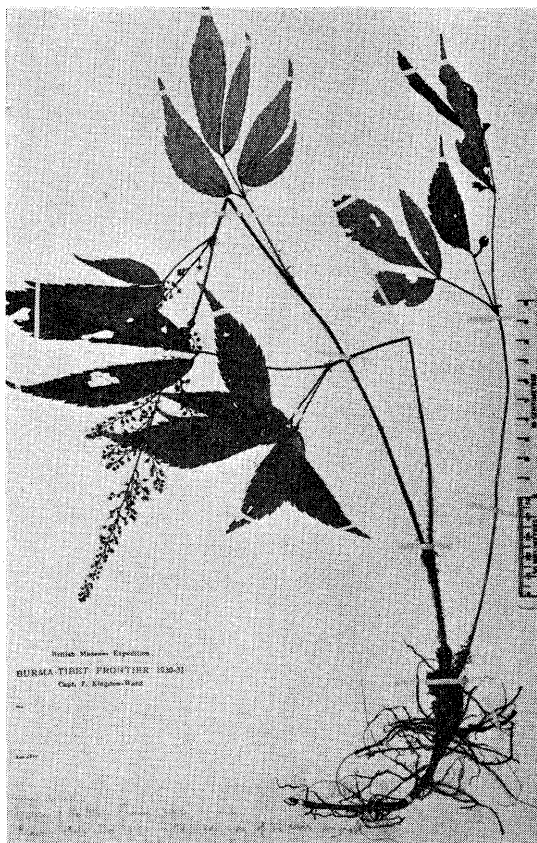


Fig. 1. *Astilbe rivularis* Ham. ex D. Don  
var. *angustifoliolata* Hara. The type.

Tamai, 3000 ft (K.-Ward, no. 9119, Oct. 1, 1931, fl.—type in BM); ibid. (K.-Ward, no. 9119, fr., BM); Hapawte torrent, Ngaw Chanp, 5500 ft (K.-Ward, no. 1277, E).

N. W. Yunnan & E. Tibet: Salwin Valley, Kunatory, 5-6000 ft (K.-Ward, Jun. 1, 1914, sine no., E).

This variety is characterized in having narrower lanceolate leaflets, and is often growing on mossy rocks along river.

114) *Galium pusillosetosum* Hara, sp. nov. (Fig. 2)

Perennis. Caules caespitosi 5-25 cm longi graciles ascendentes basi saepe procumbentes tetraquetres laeves, glabri vel pilis patentibus rigidis ad 0.8 mm longis adpersi, non aculeati. Folia 4-6-nata oblanceolata 3-10 mm longa 0.8-2.2 mm lata, apice cuspidata vel mucronata, ad basin attenuata, uninervia, praecipue in costa media pilis rigidis patentibus vulgo 0.5 mm longis parce hispida, caetero vulgo glabra, nunquam aculeolata. Cymae vulgo in ramis axillaribus brevibus terminales pauciflorae. Bracteae foliosae. Pedicelli divaricati ad 3 mm longi glabri. Corollae 2.5-3 mm in diametro

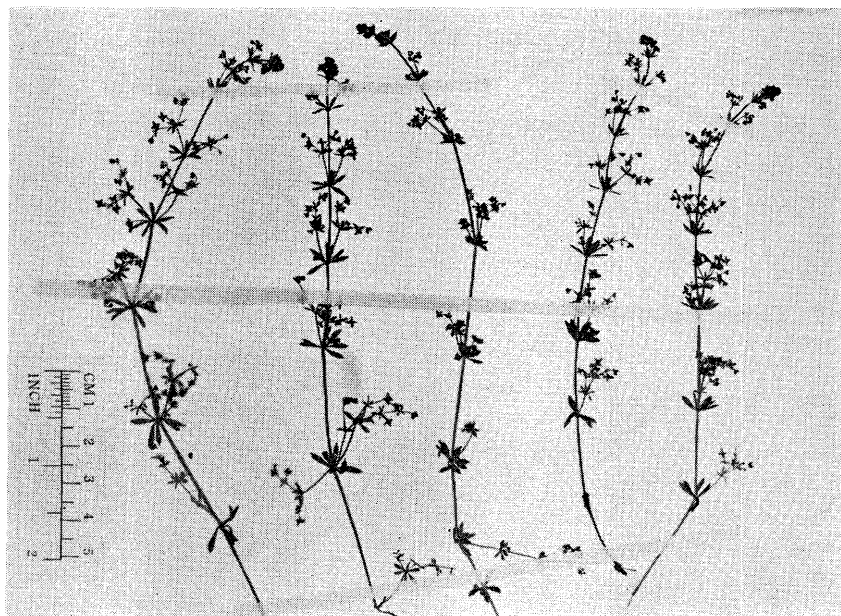


Fig. 2. *Galium pusillosetosum* Hara. A part of the type.

purpurascens; lobi 4 ovati 1.2-1.5 mm longi apice acuminati, intus in parte superiore scabri. Stamina 4, filamentum  $\pm 0.5$  mm longo. Ovarium pilis albis rigidis subrectis appressis dense obtectum. Styli 2 ca. 0.5 mm longi, stigmatibus capitato. Fructus subglobosi ca. 2 mm in diametro, setis patentibus rigidis 0.5-0.7 mm longis apice breviter uncinatis adpersi.

Nepal: Oo Kharka—Mul Kharka, Chilime & Langtang Valley, 3600 m (Kanai & Shakya, Jul. 1, 1970, no. 672180—type in TI); Oo Kharka, 3400 m (Kanai & Shakya, Jul. 7, 1970, no. 676287, TI); Above Dhorpatan, 11000 ft (Stainton, Sykes & Williams, Jul. 12, 1954, no. 3479, BM); Toketey, 13-14000 ft (Dhwoj, 1930, no. 591, BM); Bagmati Zone, Sindhu Palchok Distr., South of Ganja La, 4100 m (Nicolson, Sep. 26, 1966, no. 2633, TI).

Bhutan: Dotena, Timpu, 9000 ft (Cooper, Jul. 30, 1914, no. 2486, BM).

In general appearance, this species resembles *Galium acutum* Edgew. and a small form of *G. asperifolium* Wall., but is easily distinguishable from them in having ovaries densely covered with white straight rigid hairs, uncinately-setose fruits, and leaves conspicuously hispid especially on midrib with scattered long white spreading rigid hairs.

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108) *Arenaria depauperata* (Edgew.) Hara イトハコベと似た形をしているが、花卉は通常披針形でとがっている。

109) ブータンの高山に産するチョウカイフスマ群にやや似た 1 新種を記載した。

110) クシロワチガイの一形で、ヒマラヤからは初記録。ブータン、チベット南部に分布している。

111) ワチガイソウ類 ヒマラヤには 2 型があり、一はワチガイソウに非常に近いがしばしば根茎が細くのびて節にまるい塊茎をつける。他の型は上部の葉が倒卵形で短くとがり非常にちがうように見えるが中間形がありつながってしまう。

112) *Actaea spicata* L. var. *acuminata* (Wall. ex Royle) Hara ヒマラヤ産は日本のルイヨウショウマと異なり、果梗は肥厚せずヨーロッパ産に近い。

113) アワモリショウマに全形が似ているが、花卉は無く *Astilbe rivularis* の仲間である。

114) ヒマラヤの高地に産する多年生小形のヤエムグラ属の 1 新種を記載した。